Remarks

The Office Action mailed April 7, 2004 has been carefully reviewed and the foregoing amendments have been made in consequence thereof.

Claims 1-10 and 12-42 are pending in this application. Claims 1-33 stand rejected. Claim 11 has been canceled. Claims 34-42 have been newly added. No new matter has been added.

A fee calculation sheet for the newly added claims along with authorization to charge a deposit account in the amount of the calculated fee are submitted herewith.

The rejection of Claims 1-11 and 23 under 35 U.S.C. § 101 as being directed to non-statutory subject matter is respectfully traversed.

The Office Action suggests at page 2 that "the claimed invention is directed to non-statutory subject matter" because "the body of the claim is not tied to technological art, environment, or machine". Applicants respectfully traverse this suggestion. More specifically, Applicants submit that the claims of the present patent application are directed to practical applications in the technological arts. "Any sequence of operational steps can constitute a process within the meaning of the Patent Act so long as it is part of the technological arts." *In re Musgrave*, 431 F.2d 882 (C.C.P.A. 1970). For example, independent Claim 1 is a method directed to finding value and reducing risk in purchasing portfolios of assets. Applicants submit that finding value and reducing risk in purchasing portfolios of assets is a useful process that is considered to be within "the technological arts".

One specific example of such a method implementation is a computer with a processor programmed to calculate an initial value of each asset included within a portfolio of assets, and recalculate the value of each asset included within the portfolio, wherein the recalculation includes valuing each asset included within a first portion of the portfolio after fully underwriting each asset included within the first portion of the portfolio, valuing each asset included within a second portion of the portfolio based on an underwritten sample of assets included within the

second portion of the portfolio, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process that includes grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio. While the claims are not limited to the specific examples related to a computer with a programmed processor, the claims need not be so restricted to satisfy the requirement of Section 101.

Applicants further traverse the assertion included in the Office Action that Claims 1-11 are directed to non-statutory subject matter under Section 101 in light of the "Examination Guidelines for Computer-Related Inventions". The Examination Guidelines for Computer-Related Inventions provides in relevant part as follows:

> In order to determine whether the claim is limited to a practical application of an abstract idea, Office personnel must analyze the claim as a whole, in light of the specification, to understand what subject matter is being manipulated and how it is being manipulated. During this procedure, Office personnel must evaluate any statements of intended use or field of use, any data gathering step and any post-manipulation activity....Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under § 101. Further, when such a rejection is made, Office personnel must expressly state how the language of the claims has been interpreted to support the rejection.

Applicants respectfully submit that Claim 1 is limited to a practical application in the technological arts. Furthermore, Applicants respectfully submit that the Office Action does not expressly state how the language of Claim 1 supports the Section 101 rejection.

Claim 1 is a method directed to "finding value and reducing risk in purchasing portfolios of assets". Thus, Applicants submit that Claim 1 is directed to a useful process that is considered to be within "the technological arts". Furthermore, Claim 1 recites a "method for finding value and reducing risk in purchasing portfolios of assets using a computer coupled to a database". The method includes "recalculating the value of each asset included within the portfolio using the computer by...." Thus, Claim 1 uses a computer system to perform certain steps of the process. Claim 1 is therefore directed to a practical application in the technological arts.

Claim 11 has been canceled. Dependent Claims 2-10 depend from independent Claim 1, and these dependent Claims are submitted to satisfy the requirements of Section 101 for the same reasons set forth above with respect to independent Claim 1.

With respect to Claim 23, Applicants respectfully traverse the suggestion that "the claimed invention is directed to non-statutory subject matter" because "the body of the claim is not tied to technological art, environment, or machine". Claim 23 recites a "computer for finding value and reducing risk in purchasing portfolios of assets, said computer including a database of asset portfolios, said computer programmed to...calculate an initial value of each asset included within a portfolio...and recalculate the value of each asset included within the portfolio by...." Applicants submit that a computer programmed to calculate values and recalculate values as recited in Claim 23 is within the technological arts, and is therefore patentable subject matter.

For at least the reasons set forth above, Applicants respectfully request that the Section 101 rejection of Claims 1-11 and 23 be withdrawn.

The rejection of Claims 1-33 under 35 U.S.C. § 103 as being unpatentable over Bukowsky (U.S. Pat. No. 5,934,674) in view of Tull et al. (U.S. Pat. No. 5,946,667) ("Tull") is respectfully traversed.

Applicants respectfully submit that neither Bukowsky nor Tull, considered alone or in combination, describe or suggest the claimed invention. As discussed below, neither Bukowsky nor Tull, considered alone or in combination, describe or suggest calculating an initial value of each asset included within a portfolio of assets, and recalculating the value of each asset included within the portfolio by fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio, underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio.

Notably, neither Bukowsky nor Tull, alone or in combination, describe or suggest fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio. Moreover, neither Bukowsky nor Tull, alone or in combination, describe or suggest underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets. Furthermore, neither Bukowsky nor Tull, alone or in combination, describe or suggest statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio.

Bukowsky describes a stock market game that includes a game board (10) and an electronic display (18). Electronic display (18) includes processing unit (20) for controlling a stock value display (22) and a portfolio value display (24). Processing unit (20) determines the value of the portfolio in accordance with a selected valuation algorithm (28) and the present value for the stock. The values of stocks during game play are generated by a random number module (23) that randomly alters the values of stocks to mimic rising and falling stock prices. During game play, players are required to push one of a bull or bear market button (38 or 36), which activates the random number module (23) to recalculate the values of each of the stocks. Notably, Bukowsky does not describe underwriting any assets to produce or calculate a value of assets in a portfolio, nor does Bukowsky describe statistically inferring a value of an asset in a portfolio using an iterative process.

Tull describes a financial management structure (8) that includes a modeling system (3), financial debt instruments (10) traded to investors as single securities, and a data processing system (20) designed to administer the transactions associated with debt instruments (10). Modeling system (3) selects an optimized basket of shares which is representative of a particular capital market. The basket of shares is selected by a programming function that receives and stores data about each stock in the capital market, correlates the available data with economic forecast models to suggest an optimal basket of stock shares which can model the performance of the overall market, and predicts the future correlation of the selected stocks in the baskets with

the index of the market to ensure that they will track the market index closely. Debt instruments (10) created by financial management structure (8) are designed to be traded as Optimized Portfolio Listed Securities (OPALS). Data processing system (20) continuously monitors the price of the underlying basket of shares and computes the aggregate value of the underlying basket of shares based on the current market price of each of the stocks in the OPALS. Notably, Tull does not describe underwriting assets to produce or calculate a value of the assets in a portfolio, nor does Tull describe statistically inferring a value of an asset in a portfolio using an iterative process.

Claim 1 recites a method for finding value and reducing risk in purchasing portfolios of assets using a computer coupled to a database, the method includes "calculating an initial value of each asset included within a portfolio of assets...recalculating the value of each asset included within the portfolio using the computer by fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio, underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio."

Neither Bukowsky nor Tull, considered alone or in combination, describe or suggest a method for finding value and reducing risk in purchasing portfolios of assets as recited in Claim 1. More specifically, neither Bukowsky nor Tull, considered alone or in combination, describe or suggest calculating an initial value of each asset included within a portfolio of assets, and recalculating the value of each asset included within the portfolio by fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio, underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping

the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio.

Rather, in contrast to the present invention, Bukowsky describes a stock market game that uses a random number module to generate the values of stocks during game play to mimic rising and falling stock prices and to recalculate the values of each of the stocks as the game progresses. Notably, Bukowsky does not describe underwriting assets to produce or calculate a value of the assets in a portfolio. Moreover, Bukowsky does not describe statistically inferring a value of an asset in a portfolio using an iterative process.

Tull describes a financial management structure that includes a modeling system, financial debt instruments traded to investors as single securities, and a data processing system designed to administer the transactions associated with the debt instruments. The modeling system selects an optimized basket of stocks using a programming function that receives and stores data about each stock, correlates the available data with economic forecast models to suggest an optimal basket of stock shares, and predicts the future correlation of the selected stocks in the baskets with the index of the market to ensure that they will track the market index closely. The data processing system continuously monitors the price of the underlying basket of shares and computes the aggregate value of the underlying basket of shares based on the current market price of each of the debt instruments. Although Tull describes a structure that calculates an initial value of each asset included within a portfolio of assets, and recalculating the value of each asset included within the portfolio, Tull does not describe or suggest fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio. Moreover, Tull does not describe or suggest underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets. Furthermore, Tull does not describe or suggest statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio. Accordingly, Applicants respectfully submit that Claim 1 is patentable over Bukowsky in view of Tull.

For at least the reasons set forth above, Applicants respectfully submit that Claim 1 is patentable over Bukowsky in view of Tull.

Claim 11 has been canceled. Claims 2-10 depend, directly or indirectly, from independent Claim 1 which is submitted to be in condition for allowance. When the recitations of Claims 2-10 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2-10 are also patentable over Bukowsky in view of Tull.

Claim 12 recites a portfolio valuation system for finding value and reducing risk in purchasing portfolios of assets, wherein the system includes a computer configured as a server and further configured with a database of asset portfolios and to enable valuation process analytics, and at least one client system connected to the server through a network, wherein the server is configured to "calculate an initial value of each asset included within a portfolio...recalculate the value of each asset included within the portfolio by calculating a value of each asset included within a first portion of the portfolio after fully underwriting each asset included within the first portion of the portfolio, calculating a value of each asset included within a second portion of the portfolio based on an underwriting of a sample of assets included within a second portion of the portfolio, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio."

Neither Bukowsky nor Tull, considered alone or in combination, describe or suggest a portfolio valuation system as recited in Claim 12. More specifically, neither Bukowsky nor Tull, considered alone or in combination, describe or suggest a server configured to calculate an initial value of each asset included within a portfolio, and recalculate the value of each asset included within the portfolio by calculating a value of each asset included within a first portion of the portfolio after fully underwriting each asset included within the first portion of the portfolio, calculating a value of each asset included within a second portion of the portfolio based on an underwriting of a sample of assets included within a second portion of the portfolio, and statistically inferring a value of each asset included within a third portion of the portfolio using

an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio.

Rather, in contrast to the present invention, Bukowsky describes a stock market game that uses a random number module to generate the values of stocks during game play to mimic rising and falling stock prices and to recalculate the values of each of the stocks as the game progresses. Notably, Bukowsky does not describe underwriting assets to produce or calculate a value of the assets in a portfolio. Moreover, Bukowsky does not describe statistically inferring a value of an asset in a portfolio using an iterative process.

Tull describes a financial management structure that includes a modeling system, financial debt instruments traded to investors as single securities, and a data processing system designed to administer the transactions associated with the debt instruments. The modeling system selects an optimized basket of stocks using a programming function that receives and stores data about each stock, correlates the available data with economic forecast models to suggest an optimal basket of stock shares, and predicts the future correlation of the selected stocks in the baskets with the index of the market to ensure that they will track the market index closely. The data processing system continuously monitors the price of the underlying basket of shares and computes the aggregate value of the underlying basket of shares based on the current market price of each of the debt instruments. Although Tull describes a structure that calculates an initial value of each asset included within a portfolio of assets, and recalculating the value of each asset included within the portfolio, Tull does not describe or suggest fully underwriting each asset included within a first portion of the portfolio to produce a value of each asset included within the first portion of the portfolio. Moreover, Tull does not describe or suggest underwriting a sample of assets included within a second portion of the portfolio to calculate a value of each asset included within the second portion of the portfolio based on the underwritten sample assets. Furthermore, Tull does not describe or suggest statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on

underwriting values and variances of the first and second portions of the portfolio. Accordingly, Applicants respectfully submit that Claim 12 is patentable over Bukowsky in view of Tull.

For at least the reasons set forth above, Applicants respectfully submit that Claim 12 is patentable over Bukowsky in view of Tull.

Claims 13-22 depend, directly or indirectly, from independent Claim 12 which is submitted to be in condition for allowance. When the recitations of Claims 13-22 are considered in combination with the recitations of Claim 12, Applicants submit that dependent Claims 13-22 are also patentable over Bukowsky in view of Tull.

Claim 23 recites a computer for finding value and reducing risk in purchasing portfolios of assets, wherein the computer includes a database of asset portfolios, and wherein the computer is programmed to "calculate an initial value of each asset included within a portfolio...recalculate the value of each asset included within the portfolio by calculating a value of each asset included within a first portion of the portfolio after fully underwriting each asset included within the first portion of the portfolio, calculating a value of each asset included within a second portion of the portfolio based on an underwriting of a sample of assets included within a second portion of the portfolio, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio."

Neither Bukowsky nor Tull, considered alone or in combination, describe or suggest a computer as recited in Claim 23. More specifically, neither Bukowsky nor Tull, considered alone or in combination, describe or suggest a computer programmed to calculate an initial value of each asset included within a portfolio, and recalculate the value of each asset included within the portfolio by calculating a value of each asset included within a first portion of the portfolio after fully underwriting each asset included within the first portion of the portfolio, calculating a value of each asset included within a second portion of the portfolio based on an underwriting of a sample of assets included within a second portion of the portfolio, and statistically inferring a value of each asset included within a third portion of the portfolio using an iterative process

including grouping the assets included within the third portion of the portfolio into clusters based on underwriting values and variances of the first and second portions of the portfolio.

Rather, in contrast to the present invention, Bukowsky describes a stock market game that uses a random number module to generate the values of stocks during game play to mimic rising and falling stock prices and to recalculate the values of each of the stocks as the game progresses; and Tull describes a financial management structure that includes a modeling system, financial debt instruments traded to investors as single securities, and a data processing system designed to administer the transactions associated with the debt instruments. Accordingly, Applicants respectfully submit that Claim 23 is patentable over Bukowsky in view of Tull.

For at least the reasons set forth above, Applicants respectfully submit that Claim 23 is patentable over Bukowsky in view of Tull.

Claims 24-33 depend, directly or indirectly, from independent Claim 23 which is submitted to be in condition for allowance. When the recitations of Claims 24-33 are considered in combination with the recitations of Claim 23, Applicants submit that dependent Claims 24-33 are also patentable over Bukowsky in view of Tull.

In addition to the arguments set forth above, Applicants also respectfully submit that the Section 103 rejections of the presently pending claims is not a proper rejection. Obviousness cannot be established by merely suggesting that it would have been obvious to one of ordinary skill in the art to modify Bukowsky using the teaching of Tull. More specifically, as is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combinations. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicants' disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown.

Neither Bukowsky nor Tull, considered alone or in combination, describe or suggest the claimed combination. Rather, the section 103 rejection of Claims 1-31 over Bukowsky in view of Tull appears to be based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Bukowsky teaches a stock market game that uses a random number module to generate the values of stocks during game play to mimic rising and falling stock prices and to recalculate the values of each of the stocks as the game progresses; and Tull teaches a financial management structure that includes a modeling system, financial debt instruments traded to investors as single securities, and a data processing system designed to administer the transactions associated with the debt instruments. Since there is no teaching nor suggestion for the combination of Bukowsky and Tull, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason also, Applicants request that the Section 103 rejection of Claims 1-33 be withdrawn.

For at least the reasons set for above, Applicants respectfully request that the Section 103 rejection of Claims 1-33 be withdrawn.

Newly added Claim 34 is an independent claim. For the reasons set forth above, Applicants respectfully submit that Claim 34 is submitted in a condition for allowance and patentable. Accordingly, Applicants submit that independent Claim 34 is patentable.

Newly added Claims 35-42 depend from independent Claim 34, which is submitted in condition for allowance and is patentable over the cited art. For at least the reasons set forth above, Applicants respectfully submit that Claims 35-42 are also patentable over the cited art.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

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